CLABSA
Clavegueram de
Barcelona

Annual report on activities

2010

CLABSA

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Presentation

Imma Mayol Beltran

Chair of the Board of Directors

In 2010 we assisted with the commissioning of a new rainwater retention tank. Following 22 months of particularly complex work on the central part of Carrer Comte d'Urgell, the retention capacity of the city's rainwater collection tanks has been increased by 15,000 m3. This new facility, which CLABSA, which has already been brought on line, will improve drainage on the left-hand side of the city's Eixample district and will significantly reduce the risk of flooding in the neighbourhoods of Sant Antoni and El Raval.

The new Carrer Comte d'Urgell rainwater tank is the most visible result of the ambitious investment plan undertaken by the City Council, with regard to the sewer system over the last three years, and which has represented an investment of 117 million Euros. This plan has brought about actions such as the bringing on line of the Urgell Tank, the civil engineering work on the Carmel-Clot Tank, the improvement of 4.2 km of local networks in 10 of the city's districts and the arrival of a new treated water pipeline, bringing water for irrigation purposes to the Montjuïc hills. Collaboration on the part of CLABSA has been a key factor in the design and subsequent monitoring of the above work sites, and one of their priorities has been to reduce their impact on the life of citizens.

The new provision of treated water to the Montjuïc hills is one of the keystone projects for the harvesting of alternative water sources in Barcelona and bringing it on line will significantly reduce the consumption of potable water for municipal uses, making it possible in the near future for this water also to be used for industrial purposes in the Zona Franca area. It is a case of a commitment with a metropolitan vocation, which has been carried out jointly with the Metropolitan Environmental Agency, with technical support provided by CLABSA.

CLABSA continues to work with the Metropolitan Environmental Agency in the provision of services to a number of town councils in the metropolitan area of Barcelona. The planning of the Barberà del Vallès sewer system, the design of the La Riera de la Salut Detention Basin, in Sant Feliu de Llobregat, or the Estrella Reservoir, in Badalona, are clear examples of the contribution that CLABSA can also make to the development of an improved service for neighbouring municipalities.

In 2010 the work done by CLABSA received an important acknowledgement by the International Water Association (IWA) at their World Congress, held in Montreal.

The Association awarded their Innovation Prize to our Company for the COWAMA (Coastal Water Management) Project, which we developed to provide technological support in the management of the quality of the city's beaches, in response to the requirements of the European Directive.

In financial terms, 2010 closed with income of 10.3 million Euros and a net profit of 0.5 million Euros. While this represents a 13% reduction in income, in comparison with the previous year, this decrease, which is expected to be accentuated in the coming year, basically represents a response to the decrease in activities arising from the finalisation of the work of the Barcelona Municipal Investment Plan and the decrease in the work contracted by other metropolitan municipalities and third parties, basically due to the stage in the municipal legislative cycle.

In view of the currently unfavourable economic climate, special value must be placed on the efforts and commitment of all company personnel, along with our congratulations for all that they have achieved. I would particularly like to extend those congratulations to all of the company's collaborators and to the Board for their special dedication, and encourage them to continue with their work of improving the services that we provide to the citizens.

Imma Mayol Beltran
Chair of the Board of Directors

Shareholders and Board of Directors

Shareholders

Share capital: 3.606.072€ in 600 shares with a nominal value of 6.012,12€ each, fully subscribed and paid up by:

Barcelona de Serveis Municipals, S.A.
(class A) 105 shares

Entitat Metropolitana del Medi Ambient
(class A) 49 shares

Societat General d'Aigües de Barcelona, S.A.
(class B) 324 shares

Fomento de Construcciones y Contratas, S.A.
(class B) 122 shares

Date of incorporation:
11 May 1992

Fiscal Identification:
A-60086451

Registered Address:
Rue de l'Acer 16, 08038 – Barcelona

Phone:
932 896 800

Email:
info@clabsa.es

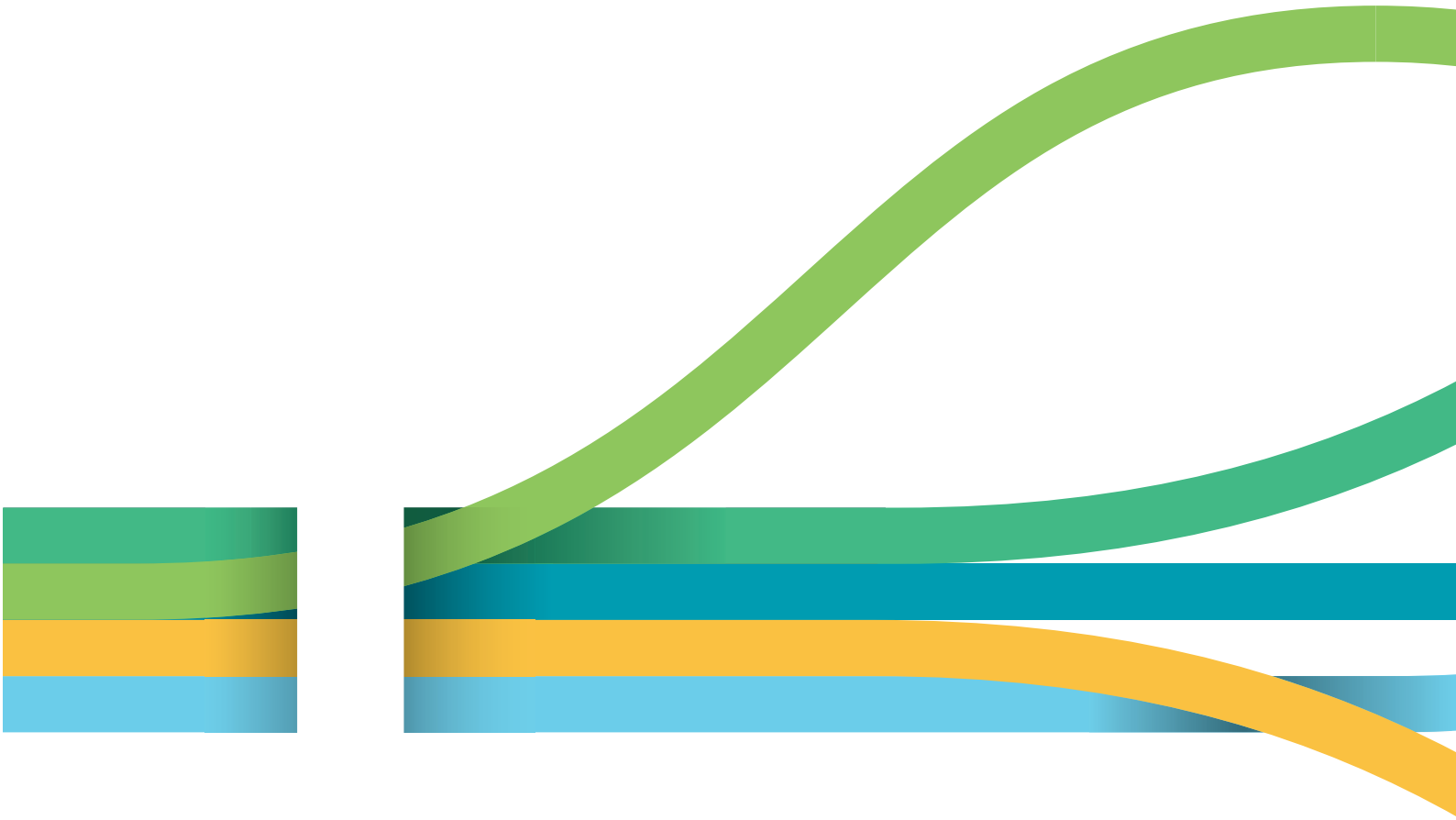
Fax:
932 230 233

Web:
www.clabsa.es

Board of Directors

Position	Representative	Time
Chair	Il•lma. Sra. Imma Mayol Beltran	
Vice Chair	Sr. Ignacio Escudero García	after 24/03/2011
	Sr. Leonard Carcolé i Galea	until 28/01/2011
Members	Il•lm. Sr. Francesc Narváez i Pazos	
	Il•lm. Sr. Joan Puigdollers i Fargas	
	Sr. Francesc Xavier Amorós i Corbella	until 24/03/2011
	Sr. Jordi Campillo i Gámez	
	Sr. Carlos Campos Callao	after 24/03/2011
	Sr. Joan Cristià Roca	after 24/03/2011
	Sr. Alejandro Jiménez Marconi	after 24/03/2011
	Sr. Joaquim Oliveras Riera	until 24/03/2011
	Sr. Fernando Rayón i Martín	
	Sr. Ciril Rozman Jurado	
	Societat General d'Aigües de Barcelona, S.A. Representant Sr. Francesc Xavier Garcés Daniel	
	Companyia Catalana de Serveis, S.A. Representant Sr. Agustín Garcia Gila	
	Serveis d'Escombraries i Neteja, S.A. Representant Sr. Jordi Payet i Pérez	
	Serveis Especials de Neteja, S.A. Representant Sr. Pau Martín i Zamora	
Vice-Secretary	FCC Versia, S.A. Representant Sr. Esteve Correa i Artés	
Managing Director	Sr. Josep Carbonell Talavera	

Annual report on activities



1.1
www.clabsa.es

Clavegueram de Barcelona, S.A. (CLABSA) is a mixed-economy company that was incorporated in 1992, on the basis of an initiative launched by Barcelona City Council. The Company's main business activity takes place within the city and the metropolitan area of Barcelona and is focused on the management, design and control of urban drainage systems.

Through the creation of CLABSA, Barcelona City Council broke away from the classical concept of passive management of the city's sewer system. This resulted in a rapid, yet far reaching, transformation of the infrastructure based on accurate planning and efficient real-time management of the elements that make it up. What CLABSA has termed "Advanced Urban Drainage Management" (GADU) became a benchmark that is today recognised as a model to be imitated, and continues to evolve towards a more generalised vision of sustainability.

The challenge of sustainable management requires a holistic approach, with a balanced blend of infrastructure and management, supported by the best available technology in order to deal with the environmental role of urban drainage, which has now become a fully recognized reality.

Holistic Approach

The city's drainage network must never be considered as an isolated system, insofar as its design and subsequent performance are conditioned by both the physical environment that it has to protect and by the constantly varying patterns of precipitation, with special emphasis on those that are due to climate change. The impact on both the city and the receiving environment, along with its ecosystems, is direct and measurable. Furthermore, sanitary

management has started to play an increasingly important role in the urban water cycle, which is why an allowance must now be made for the possibility of recycling drainage water. As important as the repercussions of this problem are the perspectives from which it must be analysed: from that of the citizens, the public authorities and also by that of the different social and economic agents.

Management and Infrastructure

The efficient use of resources and urban space requires rigorous management that will allow for a minimisation in the use of infrastructures that are habitually rigid and costly. "Advanced Urban Drainage Management" hinges on careful planning, the integration of the life cycles of installations and their subsequent rehabilitation.

Technology

In-depth knowledge of the environment, overall planning and real-time information are the factors that make it possible for urban-drainage systems to be more efficiently managed. These are the bases on which to ensure that optimum advantage can be taken of smaller, more flexible infrastructure. CLABSA is confident that the intensive use of ICT systems, backed up by the most advanced forecasting and simulation models, will be the best possible basis for decision-making.

Environmental Purpose

Rainfall not only inconveniences citizens it also causes, to a greater or lesser extent, damages as a result of flooding. However, this is merely the most widely known and easily measured aspect of the question. Rainfall is also responsible for 50% of the pollution discharged into rivers and onto beaches in urban areas, and this is a factor that we cannot afford to ignore.

The conception of how urban drainage ought to be managed, as a basic municipal service, has also been shown to be applicable to other activities that are now delegated by Barcelona City Council. As a result, the current Contract-program includes back up services related to:

- The planning and development of urban-drainage systems.
- The implementation, operation and maintenance of technological systems and elements to regulate the city's drainage systems.
- The operation and maintenance of the River Besòs flood warning system.
- The management of the system employed to harvest groundwater in Barcelona.
- Technical back up for the control of sewer cleaning and rehabilitation.
- Technical back up for the development of the network for the Pneumatic Collection of Solid Urban Waste (RPRSU).

Furthermore, at the request of Barcelona City Council, CLABSA also designs, installs and maintains a network of ducts through which fibre-optics cables are run, taking full advantage of the existing sewer infrastructure.

Activities associated with urban-drainage management and sewer network discharge controls are also carried out for all of the municipalities in the Barcelona metropolitan area, within the framework of the Contract-Program drawn up with the Metropolitan Environmental Agency.

Outside the Barcelona metropolitan area, CLABSA also provides advisory and technical-assistance services with a high level of specialisation. This has been acknowledged at an international level, by companies in the sector and by town and city councils, as well as other public bodies.

Clavegueram de Barcelona, S.A. (CLABSA) undertake their management activities in accordance with the strictest quality standards and have been awarded Quality (ISO 9001:2008), Environmental Care (ISO 14001:2004) and Occupational Health and Safety (OSHAS 18001:2007) certificates, vouching for their integrated management system and covering all of the company's activities.

1.2 Development of the Barcelona sewer system

Barcelona disposes of detailed planning of its sewer system, forms part of the Overall Sewer System Rehabilitation Plan, which was drawn up by CLABSA in 2006. This Plan, which became known as PICBA'06, is in a permanent process of updating, in order to adapt it to the changing dynamic of the city.

Barcelona City Council obtained important resources for the financing of a number of priority actions included in this Plan from the ERDF (European Regional Development Fund) 2007-2013 Cohesion Funds, as well as from the Spanish State's 2009 and 2010 Local Investment Funds.

In particular, the total for the site work projects drawn up in 2010 amounted to 18.7 million Euros, among which special mention must be made of the Carmel-Clot Tank and the Cleaning Yard that is located above the tank itself. Apart from this, for reasons of budgetary availability, the Rambla del Carmel Drain Project was broken down into two sections: Phase A (Avinguda de l'Estatut), which has already been laid, and Phase B (the tunnel passing beneath Rambla del Carmel) work on which will take place at a later date.

This year, with co-financing provided by the Cohesion Funds, CLABSA supervised 30 different work sites at a cost of 37.1 million Euros. From among these, special mention must be made of the Urgell Tank, with a retention capacity of 15,000 m^3, and the continuation of the civil engineering work on the Carmel-Clot Flood-Protection Tank, as well as the start of work on the Avinguda de l'Estatut drains, which will provide these tanks with input and outlet pipes

With regard to more local, or secondary, drainage networks, in 2010 a number of studies were carried out of the Ciutat Meridiana area, complemented by the project for

Summary of the work done on sewers projected and managed by CLABSA, in the Environmental Sphere – Year 2010

Actions	Amount (€)	Status on 31/12/2010
Holding tanks		
Urgell–Mallorca Tank	6.383.253	Finalised
Site modification, Carmel-Clot Drain and other associated drains	21.978.542	In progress
Installations and remote control of the Carmel-Clot Tank	6.999.576	Projected
Local networks		
XL1: Ciutat Vella, Eixample and Sants-Montjuïc	2.511.062	Finalised
XL2: Les Corts and Sarrià-Sant Gervasi	2.697.230	Finalised
XL3: Gràcia and Horta-Guinardó	2.679.086	Finalised
XL4: Nou Barris, Sant Andreu and Sant Martí	2.597.959	Finalised
Renovation of the Roquetes 2 networks (islands A, C, D)	766.589	In progress
Renovation of the Roquetes 3 networks (islands E, F, G)	666.988	Projected
Carrer Agudes Drain (Ciutat Meridiana)	1.485.440	Projected
Mains drains		
Rehabilitation of the following drains: Bac de Roda, Selva de Mar, Bogatell, plus surrounding areas	3.150.000	Finalised
Rambla del Carmel, Phase A, Drain	2.886.329	In progress

15,6 km
of new sewers

4,2 km
upgraded local network

CLABSA reinforced their search for better technical solutions, along with the promoters of these investments, and having resolved the affects that this work has had on the sewers network, they also ensured their correct integration, along with the application of uniform quality criteria throughout the city.

Carrer Agudes, on the border of the municipality of Montcada i Reixac, while projects were also drawn up for the "Roquetes 2" and "Roquetes 3" networks, running between the streets Carrer Artesania, Carrer Almansa, Via Favència and Carrer Alonso Cano.

CLABSA also supervised work on 4.2 kilometres of secondary network drains, laid in different districts of the city.

At the same time, this year CLABSA also concluded supervision work on the rehabilitation of the Bac de Roda Drain, along with others associated drains.

It is also necessary to mention a number of other relevant works for Barcelona City Council, such as the study of an alternative to the construction of the doubling of the Diagonal Drain, running between Francesc Macià and Passeig de Sant Joan, or the study of an alternative to the Trafalgar-Rec Drain, and also the start of planning work on the Torrent de l'Espinagosa Tank, the purpose of which will be the reduction of discharges into the unitary network at the bottom end of the Vallvidrera Reservoir.

As has now become the norm, CLABSA continued to collaborate with the districts and other municipal bodies on the development of local sewer systems, providing technical assistance for the monitoring of the ADIF (Spanish Railway Infrastructures) work on the tunnels for the high speed train link across the city.

In the chapter on the monitoring of the actions taken by the ADIF special mention must be made of the work of doubling the Riera Blanca Phase 2 Drain, the Riera de Tena Underpass and the Antoni Capmany Deviation. Likewise the monitoring of the work required to prepare the ground for the Sagrera to Sants (Mallorca/Clot, Mallorca/Trinxant, Mallorca/Padilla and Provença/Entença) Tunneller was carried out, along with the deviation of the Olesa-Garcilaso Drain, rerouted for the construction of the new Meridiana Commuter Train Station. Assistance was also provided for the reroutimg of the sewer system, required as a result of the construction of the new Metro Line 9 Stations (Guinardó, Putxet, Mandri, Sarrià), plus the work required on the Zona Franca Drain to prepare the ground for the tunneller. All of these actions had a significant impact on the sewers network and required Barcelona City Council to ensure, via CLABSA, a rigorous monitoring and control of this work. In this context, CLABSA reinforced their search for better technical solutions, along with the promoters of these investments, and having resolved the affects (both temporary and definitive) that this work has had on the sewers network, they also ensured their correct integration, along with the application of uniform quality criteria throughout the city.

The monitoring of the urban development sites, within the City, which have affected the sewer system, resulted in an average of 126 actions having to be taken every month on the public thoroughfare. This important activity resulted in the construction of 15.6 km of new sewers, of which 2.6 km correspond to accessible drains and major primary hubs. All of this work is subject to permanent monitoring, in order to optimise municipal actions and minimise the impact on citizens. This overall monitoring resulted in the drafting of 859 network reports, along with another 179 reports drawn up and 64 consultancies carried out with regard to external projects.

1.3 Management of the Barcelona sewer system

Careful planning and design of drainage systems can lead to substantial savings, particularly when greater emphasis is placed on management, rather than taking on large-scale infrastructure, as is the case with Barcelona City Council.

The final result, as perceived by citizens, will depend to a large extent on the effectiveness of this management, suitable maintenance, a good regulation strategy, real-time control of the system, etc. In essence, experience, organization and technology are all essential to ensure that the service works properly. CLABSA has installed an extensive network of sensors and hydraulic-control elements throughout Barcelona and this is the most solid technological base on which to build efficient management.

The Barcelona sewer system is now permanently monitored by a total of 2,025 remotely-supervised electronic sensors, and 397 elements that can be remotely controlled from the CLABSA Control Centre to guarantee efficient operation of the system.

This group of control installations allows for the management of heavy rainfall episodes, which in 2010 were similar to those of the previous year, although total annual precipitation was higher.

Annual rainfall was 630 l/m², distributed over 73 days of significant precipitation. On 2 occasions the intensity of the rainfall reached levels that could be defined as "alert" and on 2 occasions it reached "emergency" level, these occasions being 17th September, when 49 l/m² was recorded, and 20th September, when values of 30 l/m² were recorded in some areas of the city.

On each of the above occasions the rainwater retention tanks fully complied with the task for which they have been designed and built, accumulating vast quantities of water and avoiding its circulation through the drainage network at the most critical moments of the flooding. They also allowed for a reduction of the outflow into the sea of 1,121 tonnes of solid material suspended in the water by means of the regulation of over 4.39 million cubic metres of water.

The results obtained would not have been possible without the correct maintenance of all of the installations. The 15,465 equipment maintenance interventions, 92% of which were preventive in nature, guaranteed that all of the most important elements remained fully operative for 98% of the time. This ensured that it was possible to successfully deal with all of the rainfall episodes due to the fully operational status, of all of the systems, with optimum guarantees of efficiency.

Rainfall Data

Kind	2007	2008	2009	2010
Total precipitation (l/m²)*	399	564	473	630
Total days of rainfall	97	129	111	140
Days of significant rainfall (> 1 l/m²)	43	70	53	73
Days of heavy rainfall (> 10 l/m²)	12	19	15	19
Nominal volume of the regulating tanks (thousand m³)	473	473	473	491
Volume of retained rainfall (thousands m³)	3.628	4.478	3.683	4.390

*Historic average: 600 l/m² (1914 – 2010)

Retention and Control Network

Kind	2007	2008	2009	2010
Remote-control stations	115	141	150	157
Remote-control stations	303	343	372	397
Tanks	8	8	8	10
Pumps	190	208	232	249
Sluice gates and valves	82	101	105	110
River Besòs reservoirs	11	11	11	11
Groundwater hydrants	12	15	16	17
Remote-controlled sensors	1.743	1.820	1.874	2.025
Rain gauges, tide gauges and piezometers	210	213	224	244
Other sensors	1.543	1.607	1.650	1.784

15.565

maintenance interventions on the equipment

92%

of a preventive nature

1.4 CLABSA activity in the Barcelona metropolitan area

These Master Plans provided the people in charge of making the decisions at the town councils with a clear vision of the existing weaknesses of the networks in their towns, along with the actions that needed to be taken, their cost, and the priorities to be applied from the perspective of comprehensive infrastructure planning.

Collaboration with the Metropolitan Environmental Agency on the management of the sewer system began in 2006, when the Contract-Program was first signed between CLABSA and the Environmental Agency. This was then consolidated by a number of projects that were carried out over the following years. The principles developed for managing urban drainage in Barcelona were taken as the basis for the implementation of an effective planning and management methodology for sewer systems, which has since been adapted to the widely varying situations in the different municipalities that form a part of the Barcelona metropolitan area.

Unlike the city of Barcelona itself, in these urban centres the layouts are generally speaking more disperse, the diameters of the networks is more reduced, drainage catchment areas may be affected by major water courses and knowledge of infrastructures is less precise. Despite these differences, the CLABSA working model has shown itself to be equally effective.

Planning

The town councils of Santa Coloma de Gramenet, Barberà del Vallès and Badalona all committed themselves to this approach and entrusted the preparation of their Sewer Master Plans to CLABSA through the agreement with the Environmental Agency. These Master Plans provided the people in charge of making the decisions at the town councils with a clear vision of the existing weaknesses of the networks in their towns, along with the actions that needed to be taken, their cost, and the priorities to be applied from the perspective of comprehensive infrastructure planning. In 2010 work on the Barberà del Vallès Master Plan came to an end and considerable progress was made on the Badalona Master Plan.

This year also saw the drafting of the Master Plan for the Malgrat sewer system, on the basis of a contract drawn up with the Deputation of Barcelona for the specific provision of this service within the lines established for the drafting of Master Plans for sewer systems in small municipalities in the Province of Barcelona.

Projects and Sites

In terms of projects, in 2010 work was completed on the Estrella Sewer System Retention Tank in the Badalona sector, with a capacity of 21,000 m³, costing 8,5 million €, which included the archaeology of this important project. In fact, this was the first tank to be built in Badalona, its purpose being to avoid flooding along the Torrent de San Ignacio water course, while at the same time reducing discharges onto the town's beaches during heavy rainfall episodes.

Also in 2010 the project for the Sant Feliu de Llobregat open-air Basin was handed over to the Administration, with a volume of 71,000 m³ and budgeted at 8,4 million €, for the purpose of limiting the affect of floodwaters coursing down the Riera de la Salut dry water course in the urban centre.

With regard to the supervision of sewer system work sites, in 2010 supervision continued of the work on the La Bunyola anti-DSU (Unitary Discharge System), with a capacity of some 15,000 m³, located in El Prat de Llobregat.

Apart from the sphere of urban drainage, which gave rise to the original metropolitan Contract-Program, in 2008 the Metropolitan Authority also requested CLABSA's collaboration in the area of alternative water resources, and in particular with regard to the project for transferring recycled water from the El Prat EDAR (Wastewater Treatment Plant) to the Zona Franca/Montjuïc area in Barcelona, as well as up to the Montjuïc hills overlooking the City. This project has been developed in phases: the initial pipeline sections were laid on the Pratenc industrial estate in 2009, and in 2010 the Section 4 works on the pipeline were completed (between pg. de la Zona Franca and Carrer A), the Pumping Station at the Water Treatment Station (ERA) at the Llobregat Wastewater Treatment Plant (EDAR) that complete this infrastructure, which is over 9 km in length, runs from the EDAR to the Tres Pins Nurseries in Montjuïc.

Projects and site supervision work carried in the Barcelona Metropolitan Area - Year 2010

Actions	Award	Status on 31/12/2010
Supervision of the Anti-DSU (Unitary Discharge System) Tank in the La Bunyola and L'Aviació catchment area, in the municipality of El Prat de Llobregat	5.940.367	In progress
Supervision of the supply of treated water from the El Prat EDAR (Wastewater Treatment Plant) to Zona Franca. Section 4	580.237	Finalised
Supervision of the supply of treated water from the El Prat EDAR to the Zona Franca area. Pumping Station	922.834	Finalised
Project for the Riera de la Salut Detention Basin in Sant Feliu de Llobregat	8.413.866	Projected
Project for the Estrella Sewer System Retention Tank, in Badalona. Pre-excavation and archaeology	515.871	Projected
Project for the Estrella Sewer System Retention Tank, plus the technical premises	7.975.107	Projected

Infrastructure Operations

The Gran Via de l'Hospitalet Tank continues to be managed by CLABSA. This tank, which is the property of the General Roadways Directorate of the Generalitat of Catalonia, serves to protect the Gran Via tunnel against flooding, following intense rainfall episodes, as it passes through the municipality of Hospitalet de Llobregat.

In 2010 the harvesting and maintenance of the Sant Llorenç Basin was consolidated, the work having started in the last quarter of 2008. A total of 677 l/m2 of rain was dealt with in 109 days, in 19 of which rainfall levels were in excess of 10 l/m2. According to the warning protocols established a total of 12 warnings, which were coordinated with Civil Defence and the local police forces of Gavà and Viladecans.

The Metropolitan Authority also requested CLABSA's collaboration in the area of alternative water resources, and in particular with regard to the project for transferring recycled water from the El Prat EDAR (Wastewater Treatment Plant) to the Zona Franca/Montjuïc area in Barcelona.

1.5 Groundwater management in the city of Barcelona

Since 2006 the Barcelona City Council has entrusted CLABSA with the maintenance and operation of the city's groundwater distribution network.

The City Council is fully aware of the growing need to reduce the consumption of potable water and is firmly committed to reliance on alternative water sources for uses other than human consumption.

In recent years, a number of systems have been created to take advantage of groundwater for use in the city's parks and gardens, for ornamental fountains and lakes, and also to supply the hydrants for hosing down the streets. Now that the existing systems have been extended and interconnected and new ones opened up, Barcelona can claim to have access to an expanding groundwater distribution network that can be harvested for a variety of uses that are not dependent on the high quality standards required for potable water. This source currently supplies 16.6% of the total water used by the Barcelona City Council.

This groundwater network currently consists of 67 kilometres of distribution pipelines and 22 storage tanks, with a total capacity of 9,630 m^3. The water is supplied by 24 springs with flow rates of 2 to 10 litres per second, and in some cases is also collected from water wells, roof run-off and tunnel drainage. All such facilities are managed by CLABSA and operated via the CLABSA Control Centre.

67 km
of distribution pipelines

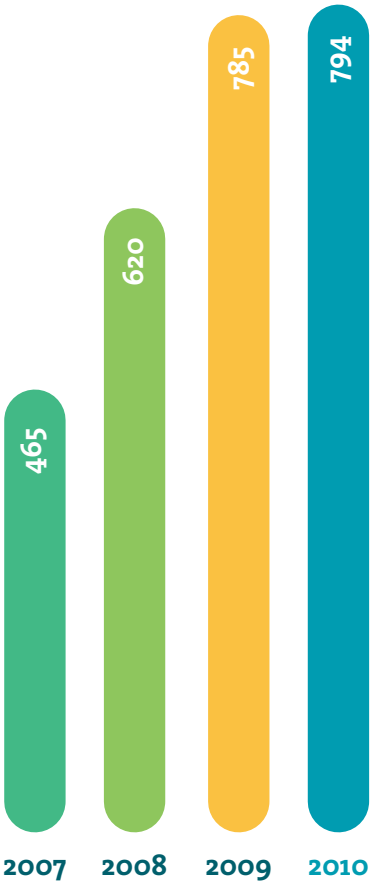
22 storage tanks
with a total capacity of 9.630 m^3

24 springs
with flow rates of 2 to 20 l/s

Projects and supervision of groundwater sites carried out by CLABSA - Year 2010

Actions	Amount (€)	Status on 31/12/2010
Supervision of the site for supplying the Montjuïc hills with treated water from the El Prat Wastewater Treatment Plant.	1.146.936	Finalised
Supervision of the site for closing the groundwater supply ring on the Mataró road.	32.000	Finalised
Supervision of the site for connecting up the groundwater network in the Sant Martí District (5 islands)	38.617	Finalised
Supervision of the site for connecting up the groundwater network: Alfons el Magnànim–Gran Via–Bac de Roda	136.449	Finalised
Project no. 9, groundwater remnants: Segregation of water consumption in the Estació del Norte Park.	45.801	In progress
Project no. 10, groundwater remnants: Gran Via, Diagonal Mar, Bori i Fontestà	235.537	Projected
Project no. 11, groundwater remnants: Urgell-Mallorca hydrant, Clot Park, control of the Wellington-Llull system (Waters Building) to Ciutadella	235.751	Projected

Consumption of groundwater in m³



794.000 m³

consumed in groundwater in 2010

In 2010, within the sphere managed by CLABSA, 794,000 m³ of groundwater was distributed by the this network as a whole, to which we must also add other alternative resources also available to the City Council, bringing this up to a total of 950,000 m³ and representing an equivalent saving in potable water.

As a result of the impetus that resulted from the drafting of the Technical Plan for Harvesting Alternative Water Sources within the City of Barcelona, CLABSA continued along the same lines, investing in systems for harvesting non-potable water (groundwater and treated water) to increase the services supplied from this source and, as a result, to further reduce the percentage of potable water used by municipal services. Project packages, nos. 9, 10 and 11, to which the reminder of the cohesion funds have been destined include, inter alia, the following: irrigation in the Estació del Nord Park, complementary work on Gran Vía, supplying the Diagonal Mar Lake, doubling the Bori i Fontestà networks, the Urgell-Mallorca hydrant, the Clot Park branch line and control of the Wellington-Llull system (the Waters Building) to Ciutadella.

In 2010, CLABSA finalised to a great extent the most important supervision of the work on the system for the supply of treated water from the El Prat Wastewater Treatment Plant to the Montjuïc hills. This work required the laying of 3.4 km of D200 mm, including a downstream tank with a capacity of 100 m³ located at level 70 on the Montjuïc hills.

Likewise, in 2010 CLABSA also inspected 19 groundwater sites, the most important of which was the section of gallery under Carrer Tarragona and the valve works in the Espanya Industrial Park, as well as the work done on the Montjuïc and Palau Nacional gallery.

In the operations and management sphere it should also be stressed that, in 2010, a number of new groundwater network installations were brought on line, of which special mention should be made of a new well, in the University area, new connections to irrigation systems in the Montjuïc hills and the improvement of the disinfection of the Paral·lel Tank, all of which has been designed to improve the quality of the water.

1.6 Other activities of note

At the request of the Barcelona City Council, CLABSA extended its activity in the city in order to cover other areas, such as the installation of ducts in the sewers to carry Fibre-Optics cables, the management of hydrological warning systems and the planning and development of installations for the Pneumatic Collection of Solid Urban Waste (RPRSU).

Control of Waste Discharges in the Barcelona Sewer System

In 2010 the metropolitan assignment for the control of discharges into the Barcelona sewer system resulted in a total of 646 inspections, of different companies working within both the municipal area of Barcelona and also its adjacent metropolitan areas. In line with previous years this work also included an emergency discharge service (24 hours a day, 365 days a year) and the publishing of an annual edition of an atlas of potentially contaminating establishments in the Barcelona area. As an outstanding innovation in 2010, we must stress the finalisation of the work on implementing the Environmental Agency's remote control drainage network water quality system, which has been operational since the end of 2010 and which is scheduled to be extended during 2011.

On the other hand, 12 environmental incidents of varying kinds had to be attended to, as a result of bothersome smells, unregulated industrial dumping, either of unknown origin or as a result of accidents at industrial facilities, etc., both within the municipality of Barcelona and its Port Area, as well as in adjacent metropolitan municipalities.

Development of Fibre-Optics Ducts in the Barcelona Sewer System

Those telecommunications operators that are extending their networks in Barcelona continue with their preference for taking advantage of the sewer system as their installation vehicle of choice. The sewers are, in fact, a far safer medium for Fibre-Optics cables (as long as they are duly protected and secured in ducting) than trenches dug up in the city streets. Furthermore, a sewer-based Fibre-Optics network is quick to install, more dynamic to use and avoids all the inconveniences and disruptions experienced by citizens when the streets are being dug up.

The length of the Fibre-Optics cable ducting installed in the sewer system in 2010 was 25 km, with 16 of them having been laid by a single operator, which means that the total length of sewer mains currently fitted with Fibre-Optics cable ducts, serving eleven of the city's operators, is now 550 km.

Management of the Besòs River Waterway Park Warning System

The management of the River Besòs Waterway Park warning system has been handled by CLABSA since 2000. This park was built in two phases: the first consisted of the stretch running between the municipalities of Santa Coloma de Gramenet and Barcelona, while the second is the stretch that was extended in 2004 in the municipality of Sant Adriá de Besòs, as far as the mouth of the river.

The Waterway Park warning system operated without any incidents of note during 2010, thereby enabling the members of the public visiting the park to fully enjoy its services. During this period six warnings were issued, as a result of inclement weather conditions, while on one occasion the park was partially flooded.

Management system alert River Park Besòs. Chart numbers warning

7

alerts in 2010

1

partial flooding of the park

Assistance with Urban Cleaning

As in previous years, Barcelona City Council continued to promote the development of pneumatic-collection systems, which has resulted in new projects and works being undertaken. In both the pneumatic collection of waste and other spheres, such as mini-waste collection centres or cleaning yards, the City Council once again entrusted CLABSA with the development work of these projects. The Company drew up the project for adapting the mobile RPRSU systems and also drew up a project for a cleaning yard, over the Carmel-Clot tank, which will contribute to the optimisation of the functioning of the City's new cleaning contracts.

By the start of 2010 CLABSA had finalised the supervision of four work sites in the waste sphere, on which work had started in 2009, for a total of 5.4 million Euros, co-financed by European Cohesion Funds, these were: the consolidation of connections to the RPRM (Pneumatic Municipal Waste Collection) mains network, doubling the Diagonal-Poblenou RPRM Centre, doubling the Villa Olímpica RPRM Centre and the construction of five neighbourhood green points.

In 2010 CLABSA carried out inspection work on five pneumatic collection sites, co-financed by State Local Investment Funds: Poblenou network consolidation phase 1; Poblenou network consolidation phase 2; Poblenou network consolidation phase A, adaptation of mobile system and doubling of the Vila Olímpica RPRM Centre.

Likewise, another notable inspection activity, undertaken in 2010 by CLABSA on behalf of the Barcelona City Council Directorate of Urban Cleaning Services, was the auditing of the centres at the Vila Olímpica, La Maquinista and Diagonal-Poblenou, along with their associated networks.

List of Urban Cleaning projects and site work - Year 2010

Actions	Amount (€)	Status on 31/12/2010
Supervision of the Work to consolidate the connections to the RPRM general network	1.730.934	Finalised
Supervision of the work to double the Diagonal-Poblenou RPRM Centre	1.126.969	Finalised
Supervision of the work to double the Vila Olímpica RPRM Centre	1.685.686	Finalised
Supervision of the work on 5 neighbourhood green points	881.074	Finalised
Project for the Carmel-Clot Cleaning Yard	1.900.000	Projected

In 2010 technical assistance work finalised at the site of the RPRM mobile to fixed conversion in Gran de Gràcia, along with the supervision of the mechanical work on the RPRM network at Ronda General Mitre (Puig-Reig in Carrer Balmes).

Apart from the actions indicated above, the work of technical assessment also continued for the promoters of the areas of expansion of the RPRM system, i.e. the new technological district 22@barcelona, the Bagursa offices for the Marina del Prat Vermell urban development, and the Barcelona Sagrera Alta Velocidad (High-Speed Train) Consortium.

Other Sewer System Work

The model set up by CLABSA for the management of urban drainage has been so successful that many other towns and cities are also adopting it. As a result, on occasions, CLABSA has been asked to provide a range of public authorities with technical assistance and collaboration in drawing up specific projects. This work has made it possible for the CLABSA vision of urban drainage to be shared and applied in a number of areas beyond its habitual spheres of action.

The most important projects taken on, outside the metropolitan area was the drafting of a Master Plan for the Tarragona Sewer System. Tarragona is a city with a population of 140,000 and has a sewer system that is 280 km long. To this end a 2D simulation model was created for the whole sewer network, i.e. a simulation of the hydraulic behaviour of both the sewer system and surface run-off throughout the municipality.

Other aspects of management

2.1 Innovation

Over the last few years the level of R&D&I activity by CLABSA, which has always played a significant role in the technological progress of the company, has undergone a notable increase. A number of ambitious projects that work began on five years ago were brought to completion, while a number of new projects were also set in motion that are going to represent important advances in terms of urban drainage in the near future.

In continuation we attach a brief selection of the main projects in this sphere.

SOSTAQUA Project:

"Towards a Self-Sustaining Water Cycle" (www.sostaqua.com). This macro-project, financed with CENIT (Ministry of Industry, Tourism and Trade) Funds and led by the AGBAR Group, was finalised in 2010. In it CLABSA developed a line of investigation for the evaluation of rainwater, in collaboration with, among others, the University of A Coruña. Work has now been completed on the campaigns for the characterisation of rainwater throughout the full urban water cycle, along with the analysis of the possible technologies for the treatment required to make this water suitable for required uses. In the end a final study of rainwater treatment techniques was drafted, which included key aspects, such as the most appropriate uses for the rainwater, how a characterisation campaign should be focussed, how to design system for rainwater collection and storage, as well as a proposal for the best available technologies for the recovery of rainwater.

Rainwater Harvesting in Urban Environments:

With regard to this question, an R&I Alliance financing project (under the title "Rainwater Harvesting") also came to an end. This project was complementary to the SOSTAQUA project and centred on the development of an excellent tool to assist with decision making in the formulation and design of systems for the harvesting of rainwater in urban environments, including aspects such as quality requirements, the dimensioning of rainwater storage tanks and the selection of the best treatment technologies, in order to adapt this water to the desired urban uses.

Coordinated Sewer System Management-Treatment:

Throughout 2010 work continued on the second phase of this project that, on the basis of financing by the AGBAR Group (CETaqua), is concerned with the development of the prototype for an innovative tool, based on mathematical models and artificial intelligence tools, that will provide support for sewer system and water treatment managers in the form of the coordinated management of infrastructures (tanks, pumping, sluice gates, treatment units in Wastewater Treatment Plants, etc.) in order to avoid negative effects for the receptive medium, particularly DSU's (Unitary Discharge Systems).

Proposal for Better DSU (Unitary Discharge System) and DSS (Separating Discharge System) Technologies in Rainfall Episodes:

In 2010 work went ahead on the development of this project, with the finalisation of phase 1, which analysed the available technological improvements for the treatment of the discharges of the sewer systems (DSU's), according to legal, technical and economic criteria. This in turn resulted in the development of a tool to support the decision for the selection of technologies. Work also began on phase 2, complementing the analysis of technologies on the basis of technical visits to actual DSU treatment installations in countries such as France, Germany and Spain.

Medium and Long Term Strategies for Flood Management in Urban and Peri-Urban Areas:

Phase 2 of this project, based on the implementation of methodologies for the evaluation of risks associated with the flooding of urban and peri-urban areas, as well as on an estimation of overall changes in the short, medium and long term in 3 actual cases, one of which is in the Raval District of Barcelona.

Finally, within the sphere of flooding management and climate change, work started on two European projects, CORFU and PREPARED, with financing from the 7th Framework Program. CLABSA is participating in both of these projects as a collaborator and also as the leader for some of the tasks. Specifically in the CORFU Project, which analyses flooding management strategies in urban areas of European and Asiatic countries, in order to improve the resilience of response with regard to floods in the future. On the other hand, PREPARED analyses strategies to meet future challenges in supply and drainage, as a consequence of climate change. Both of these projects are set to continue over a period of four years, 2010-2013.

2.2 Human resources

The company's constant investment in safety-training, the application of best practices and the adaptation of equipment and installations, made it possible to keep lost time accident rates at levels that were lower than those of other comparable industrial sectors.

A significant effort was made in 2010 with regard to training, with 2.9% of the hours worked during the year being dedicated to this end, representing an increase in the total number of training hours registered in the previous year, in particular with regard to specific technical training. The costs of training amounted to 3.9% of total staff costs.

Our team, in terms of qualifications	2010
Management staff and holders of advanced-level degrees	41
Holders of medium-level degrees	22
Specialized technical staff	36
Auxiliary staff	19
Total	**118**

Main features of staff	2010
Average age (years)	36,6
Average time of service (years)	7,82
% personnel turnover rate	11,5
% women out of total	28,81
% salary gap between women and men	12,84
% employees working flexible hours	79,66
% employees working part time	11,02

Occupational Health and Safety	2010
Incident rate	7,37
Frequency rate	41,57
Severity rate	0,42
Absenteeism rate	5,8
Number of accidents	9

Incident rate = (number of accidents involving lost time/average staff) x 100
Frequency rate = (number of accidents involving lost time/number of hours worked) x 1,000,000
Severity rate = (number of days sick leave due to accidents/number f hours worked) x 1000

Training	2010
Hours of training	6292
Hours of training on occupational health and safety	545
Number of people trained (those that logged over 5 hours training)	52

2,9 %
of hours spent training

3,9 %
labor costs devoted training

2.3 Commitment to the community

The dissemination of information to the public at large, and to experts throughout the world, with regard to Barcelona's experiences of managing urban drainage is an area that deserves our constant attention.

Year after year CLABSA has given its support to activities programs such as "How Barcelona Works", an initiative run by the City Council, and "When it Rains in the City", managed by the Barcelona Contemporary Culture Centre (CCCB). These are educational programs, designed for schoolchildren who want to learn about the constant transformation of our city, and organized at the rainwater-retention tank, beneath the Joan Miró Park, during academic year 2009-2010, with 780 visitors.

In 2010, CLABSA also received visits from groups of people interested in learning about the Barcelona experience. These visitors came from a range of different backgrounds: technicians and scientists, university representatives, public authorities and public/private services companies. Of the 1,311 visitors, 15% were from abroad.

On 9th October the Urgell Retention Tank, with a capacity of 16,000m3, was inaugurated, with the aim of improving the city's drainage problems. The new tank was specifically installed to avoid periodic flooding in Carrer Comte d'Urgell, Avinguda Roma, Avinguda Paral•lel and the Raval, and also to minimise the discharge of contaminating substances onto the city's beaches during heavy rainfall. The new tank is located in the middle of Carrer Comte d'Urgell, between Carrer Mallorca and Carrer València, in a densely populated part of the city. As a result special care had to be taken with environmental aspects to avoid, as far as possible, inconveniencing residents. Many citizens, some 450, attended the opening ceremony, expressing their interest in the operational system for this infrastructure.

In 2010 one of the CLABSA projects also received the recognition of the IWA (the International Water Association) and was awarded two Project Innovation Awards, one at European level, the 2010 PIA Europe Regional Award; and the other at worldwide level, the 2010 PIA Global Award. Both of these prizes were awarded for the COWAMA Project, as the best management project, for the control and monitoring of the discharge episodes of the drainage system.

2.4 Environmental action

Urban drainage is a basic service with a very well known environmental function.

The commitment to environment protection is, therefore, a fundamental value that CLABSA has erected as the focal point of its business strategy. This commitment takes the form of excellent management, aimed at minimizing discharges into the receiving environment, the responsible use of resources in the development of the company's business and the dissemination and promotion of best practices in the sustainable management of urban drainage.

Environmental impact of site work in the city

Within the framework of the Cohesion Fund projects and site work undertaken in 2008, a work methodology was developed for the evaluation of the impact of the work on the city and the effectiveness of the corrective measures that have been applied to it, both during the project design phase and when it is being implemented. In this way, the impact of the work, on the population, with regard to waste and landscaping, among other aspects, is appraised on the basis of objective criteria and an analysis is then undertaken to discover to what extent the palliative measures proposed at the project level will minimise these aspects.

According to the policy marked out by the Barcelona City Council, all of the projects drawn up by CLABSA have to be accompanied by an environmental report. This is a document that serves as a basis for the presentation and evaluation of the different construction companies, in the tendering stage, and subsequently as a guide to the environmental monitoring of the work as it is actually being carried out on site.

In order to bring about this action an environmental report form has been designed, which must be filled in for each project, and which allows for improvements to be made by the companies that are awarded the work. This environmental appraisal of the work is controlled, by CLABSA, for each of the sites where work is being done, on the basis of a management manual and periodic monitoring reports that show the environmental appraisals of the site, in comparison with those specified in the project and in the offer made by the contractor, and must also include any incidents, documents or alerts that may occur. In this way, at all times, Barcelona City Council has access to rigorous and objective information regarding the monitoring of environmental aspects of all of the work done in the city, in the widest sense.

Water Quality

In recent years, CLABSA's environmental actions have been aimed at reducing the impact of the direct discharge of wastewater or rainwater into the receiving environment. Significant advances have been made in innovative projects, as described above, and also in the installation of more reliable sensors at the points of direct discharge into the sea, with a view to obtaining better information that has made it possible to ensure that these are properly managed.

In recent years, CLABSA's environmental actions have been aimed at reducing the impact of the direct discharge of wastewater or rainwater into the receiving environment.

Meticulous management of rainwater-retention tanks allows for flooding to be prevented and, at the same time, allows for the prevention of the polluting of Barcelona's coastline. It is calculated that, in 2010, good management prevented 1,121 tonnes of highly polluted waste from being discharged directly into the sea.

Responsible Consumption

The second point of preferential attention is that of the responsible consumption of resources. In 2007 CLABSA implemented a series of ambitious measures to reduce the consumption of resources, focusing on water, electricity, paper and fuel.

In 2010 the electrical energy production goals were achieved, through the introduction of solar photovoltaic panels, which produced 20,353 kWh. The anticipated goals for solar thermal energy production were also achieved.

CO_2 Emissions Calculation and Compensation

CLABSA specified the compensation for CO_2 emissions, calculated for the year 2009, as a result of the company's activities. This was estimated at 301 MT and included emissions produced as a result of electricity, gas, fuel and paper consumption, as well as the emissions resulting from the travel of company employees.

Compensation for 100% of emissions has been carried out via the www.CeroCO2.org initiative, specifically in the El Bote mini hydroelectric station project and rural electrification in Nicaragua.

Environmental Data 2010

Resource Consumption	Value	Units
Electricity	1.628.518	kWh
Natural gas	4.784	m³
Diesel for vehicles	9,7	m³
Potable water public network	2.800	m³
Municipal groundwater	793.993	m³
Paper	3.213	kg

Waste Generated	Value	Units
Mechanical equipment	1.980	kg
Electrical and electronic equipment	170	kg
Paper	5.466	kg
Toners and ink cartridges	128	kg
% of waste recycled or reused	100	%

1.121 MT

waste not thrown into the sea for share of the tanks

20.353 kWh

photovoltaic energy produced

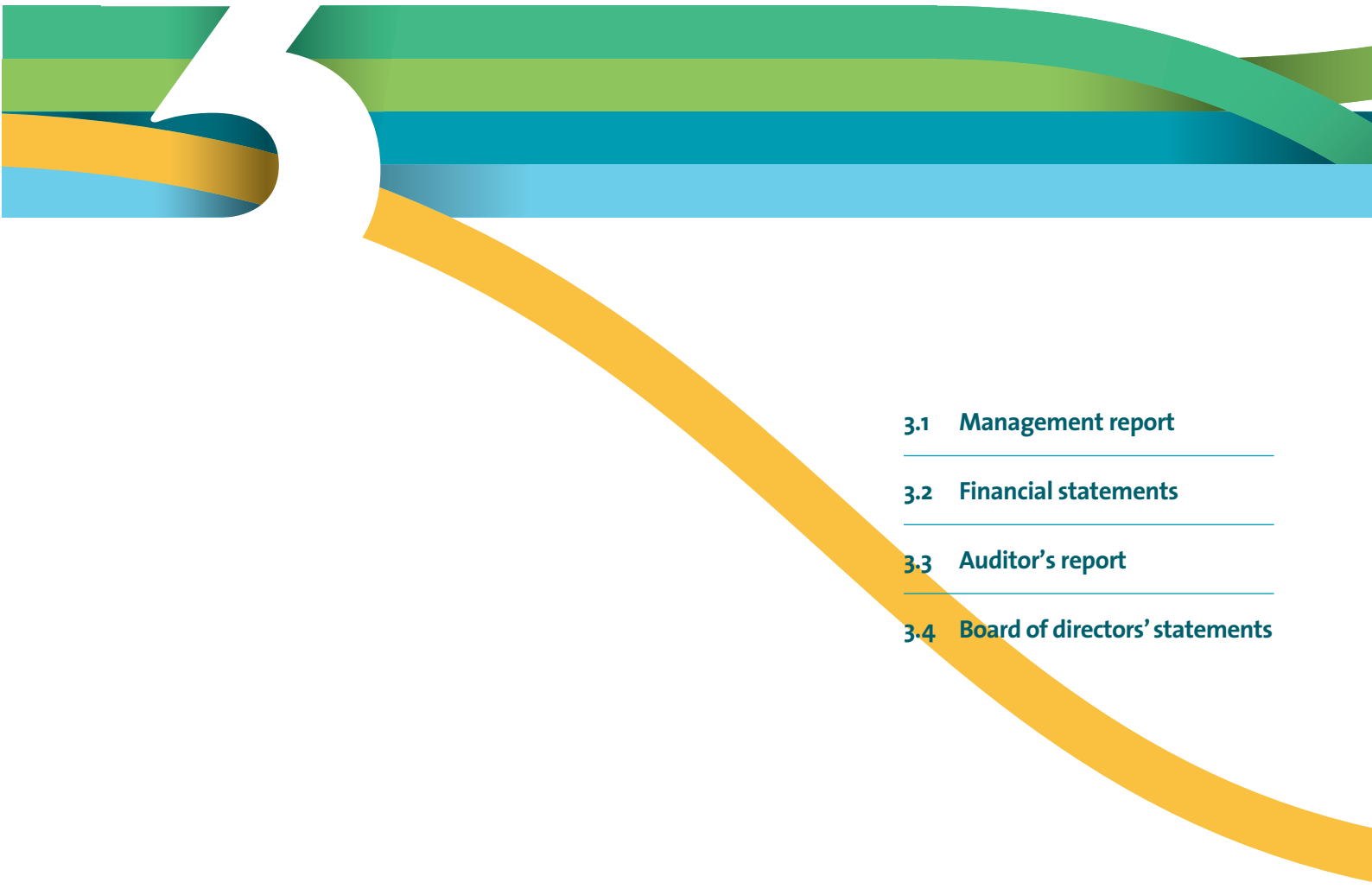
Environmental Expenses	Amount (€)
Investment in assets designed to protect the environment	205.370
Auditing and environmental-management expenses	31.489
Expenses of environmental training/awareness	4.011
% of business turnover covered by technical environmental audits	100%
% of business turnover covered by environmental policies	100%

Anti-Pollution Protection	Value	Units
Flotsam not discharged to sea due to retention tanks	1.121	MT
Number of checks run on industrial discharge	646	Uts
Number of checks run on industrial discharge	12	Uts

7.744 kg

generated waste
100% recycled or neutralization

Financial data



3.1 Management report

In 2010 stress must be placed on the following events as the most relevant: the new Contract-Program drawn up with the Barcelona City Council, which will remain in force throughout 2010 and 2011, and the bringing on line of two singular new installations: the Carrer Comte d'Urgell Tank and the infrastructure to bring treated water from the Metropolitan Environmental Agency Treatment Plant, at El Prat de Llobregat, to the facilities on the Montjuïc hills.

Summary of the Activities of Most Interest

In 2010 there was a significant decrease in variable services for Barcelona City Council, in comparison with previous years, as anticipated. This was due to the finalisation of many of the actions that had been initiated in 2009.

CLABSA also projected a total of 13 actions with a total value of 18.7 million Euros. Of particular relevance were the projects for the Carmel-Clot Tank installations, with its associated cleaning yard, as well as the main drain laid in Avinguda de l'Estatut and the different local networks in the Ciutat Meridiana and Roquetes districts. In short, the total cost of the package of investments projected over the last three years has amounted to 117 million Euros.

Furthermore, CLABSA also supervised 30 work sites, with a total value of 37.1 million Euros, in particular the work on the Urgell tank, with a retention volume of 16,000 m^3, and the pipeline for supplying treated water to the Montjuïc hills, with a 100 m^3 downstream tank situated at level 70 on the hills. Work also took place on the supervision of the laying of 4.2 kilometres of secondary network drains, in the different districts of the city, civil engineering work continued on the Carmel-Clot Flood-Prevention Tank and got underway on the Avinguda de l'Estatut drains, entering and leaving the tank.

In October work was completed on the building of the Urgell Rainwater Retention Tank, which was then integrated into the urban drainage harvesting system for the city of Barcelona. This tank allows for the water that is delivered by the drains in Carrer Comte d'Urgell and adjacent streets, to be temporarily retained, in this way reducing the periodic flooding suffered by the lower reaches of the city, as well as the discharge of contaminants, both onto the beaches and into the Port, during rainfall episodes. This tank consists of a single 16,000 m^3 body, installed underground beneath Carrer Comte d'Urgell, between Carrer Mallorca and Carrer València, and divided into 3 cleaning lanes that run parallel with its longer side, and is connected up to a well from a groundwater accumulation tank, which is used to clean the tank and to supply exterior non-potable water. For the most part the volume of water accumulated is emptied out by pumping, in this way complementing the regulatory function of the Escola Industrial Tank, which has been in service since 2000.

CLABSA has projected a total of 13 new actions for an amount of 18.7 million euros.

In the sphere of alternative water resources, the finalisation of the work and bringing on line of the pipeline, which carries treated water to the Montjüic hills, was a tremendously important milestone for both the Barcelona City Council and Metropolitan Environmental Agency, insofar as it represents tangible progress in the harvesting of alternative sources for uses that do not require the quality of potable water. A system of groundwater supply, associated with the Fira-2 Tank, was also incorporated to the harvested installations, plus 21 new consumption points were connected, along with the already existing ones. The most notable of these was the Magic Fountain, on the Montjuïc hills, irrigation and the filling of the lake in the Espanya Industrial Park.

With regard to the services provided by the Metropolitan Environmental Agency, special emphasis must be placed on the delivery of the projects for the Riera de la Salud Detention Basin in Sant Feliu de Llobregat, which has a capacity of 69,000 m^3; and the Estrella Tank in Badalona, with a capacity of 20,800 m^3; work on which started in 2011, plus the finalisation of the Barberà del Vallès Master Plan.

In 2010 work also continued on the supervision of the work on the La Bunyola anti-DSU tank, with a capacity of 15,000 m^3, located in the Prat de Llobregat area. Likewise, as mentioned above, work was also completed on the supervision of the laying of a section of treated water pipeline (between pg. de Zona Franca, Carrer A) and the pumping station located at the Water Treatment Plant (ERA) at the Llobregat Wastewater Treatment Plant (EDAR), which completed the infrastructure of over 9 km that runs from this EDAR to the Tres Pins Nursery on the Montjuïc hills. The activity of controlling discharges to the sewer system network included inspections of 650 companies, although mention must also be made of the fact that in 2010 two automatic quality stations were brought on line in System 7 (Sant Feliu de Llobregat), the data from which are sent to the CLABSA Control Centre and can be consulted in real time at the CLABSA offices. The installations of the Sant Llorenç Basin have been used on 48 occasions, without any incident, and form a vital cog in the safety system protecting downstream urban areas from flooding. Income from these activities amounted to 0.9 million Euros.

A total of 25 km of new fibre-optic ducts were installed in 2010 and there are now 550 km of drains through which fibre-optic cables run. The revenues from this work in 2010 amounted to 2.6 million Euros.

In the chapter covering work done for third parties, special emphasis must be placed on the handover of the Tarragona Sewer System Master Plan, which represented an important milestone for those in charge of the service in Tarragona, as well as a new start in the management thereof. Total revenues for this item were 2.25 million Euros, representing a significant decrease in comparison with the previous year.

Rainfall and Rainfall Episode Management

Total annual precipitation registered in 2010 was 630 l/m^2, 5% above the historical mean. Despite this being an average rainfall in historical terms it was the highest registered in the last eight years and, as a result, 2010 can be considered as a year of hydrological recovery. There were no rainfall episodes of particularly high intensity, which meant that only two alert statuses were declared and in neither case was emergency level reached.

During the 73 days of significant rainfall the drainage system tanks filled either fully or partially on 28 occasions, retaining almost 4.4 million square metres of water, and avoiding the discharge of 1,100 tonnes of flotsam directly into the sea.

In terms of the River Besòs flooding alert system, in 2010 there were six alert situations and one crisis situation, resulting from episodes of heavy rainfall. These alert levels result in the closing of the waterway park due to the flooding of the access area. During these episodes, and following the established protocol, warnings were given sufficiently in advance for the park to be safely evacuated.

The support for the quality management of Barcelona's bathing waters continued in 2010 with its characteristic elements: electronic panels on the beaches, regular updating of information on the City Council Beaches Website, the application of the Manual of Actions to be taken in cases of discharges into Barcelona's bathing waters.

Aspects Relevant to Management

With regard to Management Systems, and in accordance with the Quality (ISO 9001:2000), Environment (ISO 14001:2004) and Occupational Health and Safety (OSHAS 18001) Standards, the control audits were carried out with satisfactory results. With regard to the CLABSA workforce, on 31st December 2010 this consisted of 118 employees, who had taken part in 117 training actions, having dedicated 2.9% of their working hours during the year.

In 2010, and in order to neutralise the impact that the company's activity could end up having on the environment, the quantity of CO2 emissions in 2009 was evaluated and consequently compensated. Given the great care that is taken with regard to responsible consumption of resources and, in general, with regard to environmental matters associated with the company's activity (recycling, energy efficiency, photovoltaic energy, etc.), the impact was evaluated at 301 tonnes of CO2, which were then compensated for by the corresponding provisions to projects of an environmental character in the third world.

Once again this year, special mention must be made of the recognition by the IWA, International Water Association, of one of CLABSA's projects, awarding the distinction of two international prizes, one at European level, the 2010 PIA Europe Regional Award; and the other at a worldwide level, the 2010 PIA Global Award. Both of these were awarded to the COWAMA Project, considering it to be the best management project, for the control and monitoring of episodes of discharges into the drainage system.

In this last year, closed on 31.12.2010, income for CLABSA fell by 13.3%, to 10.3 M€. This was basically due to the reduction in invoicing for variable services provided to both Barcelona City Council and third parties, which yielded a net profit of 0.5 M€. Net Asset Value on 31st December 2010 was 4.8 M€, while total assets amounted to 11 M€, with shareholders equity of 5 M€.

Evolution of income - Year 2010

Figures in millions of €

4,8 million
of net patrimonial value

11,0 million
total assets

5,0 million
of own funds

Forecasts for 2011

In the coming year, 2011, as well as the fixed items anticipated in the Contract-Programs, both with Barcelona City Council and the Environmental Agency, a further decrease in terms of variable services for both the City Council and third parties is expected, given that once the actions that are currently underway have been brought to a close the year will be very much marked by the fact that 2011 is an election year, which will have a repercussion on those activities related to the work done by CLABSA and, as a consequence, the assignment of new projects. With regard to fibre-optic cable laying activities, the forecast revenues are in line with those of previous years and, as a result, below those of 2010. All in all, a priori expectations are for a year in which there will be a decrease in activity in terms of the work contracted out by local administrations, although there is some hope that a limited recovery may be evident in the second half of the year, as a consequence of the start of a new legislative cycle.

3.2 Financial statements

Balance sheet (€ thousands)		
Assets	**2009**	**2010**
Intangible fixed assets. Concession	0	0
Net tangible fixed assets	4.907	4.801
Accounts receivable	4.554	2.845
Cash and banks	3.598	3.395
Total assets	13.059	11.041

Liabilities	2009	2010
Share capital plus reserves	4.422	4.502
Net profit for the financial year	805	529
Amortization fund (private capital)	2.975	2.975
Accounts payable, suppliers and others	4.857	3.035
Short-term loans	0	0
Total liabilities	13.059	11.041

Profit and loss account (€ thousands)

Operating Income	2009	2010
Barcelona City Council	6.178	4.729
Other income	5.709	5.578
Total income	**11.887**	**10.307**

Operating Expenses	2009	2010
Staff costs	5.898	4.502
Sundry expenses	2.901	529
Services to third parties	1.449	2.975
Depreciation and Provisions	799	3.035
Total expenses	**11.047**	**9.810**

Operating Profit/Loss	2009	2010
Operating Profit/Loss	**840**	**497**
Financial and extraordinary profit	233	208
Provision for Corporate Tax	-268	-176
Net profit	**805**	**529**

3.3 Audit report

HLB Bové Montero y Asociados

Auditores • Consultores • Asesores Jurídico-Tributarios

Número: 3548/11

INFORME DE AUDITORIA DE COMPTES ANUALS

Als Srs. Accionistes de CLAVEGUERAM DE BARCELONA, S.A.:

1. Hem auditat els comptes anuals de **CLAVEGUERAM DE BARCELONA, S.A. (CLABSA)**, que comprenen el balanç a 31 de desembre de 2010, el compte de pèrdues i guanys, l'estat de canvis en el patrimoni net, l'estat de fluxos d'efectiu i la memòria corresponents a l'exercici anual finalitzat en aquesta data. Els administradors són responsables de la formulació dels comptes anuals de la Societat, d'acord amb el marc normatiu d'informació financera aplicable a l'entitat (que s'identifica en la **nota 2** de la memòria adjunta) i, en particular, amb els principis i criteris comptables que hi conté. La nostra responsabilitat és expressar una opinió sobre els esmentats comptes anuals en el seu conjunt, basada en el treball realitzat d'acord amb la normativa reguladora de l'activitat d'auditoria de comptes vigent a Espanya, que requereix l'examen, mitjançant la realització de proves selectives, de l'evidència justificativa dels comptes anuals i l'avaluació de si la seva presentació, els principis i criteris utilitzats i les estimacions realitzades, estan d'acord amb el marc normatiu d'informació financera que resulta d'aplicació.

2. Segons la nostra opinió, els comptes anuals de l'exercici 31 de desembre de 2010 adjunts expressen, en tots els aspectes significatius, la imatge fidel del patrimoni i de la situació financera de **CLAVEGUERAM DE BARCELONA, S.A. (CLABSA)** a 31 de desembre de 2010, així com dels resultats de les seves operacions i dels seus fluxos d'efectiu corresponents a l'exercici anual finalitzat en aquesta data, de conformitat amb el marc normatiu d'informació financera que resulta d'aplicació i, en particular, amb els principis i criteris comptables en el continguts.

3. L'informe de gestió adjunt de l'exercici 31 de desembre de 2010 conté les explicacions que els administradors consideren oportunes sobre la situació de la Societat, l'evolució dels seus negocis i sobre altres assumptes i no forma part integrant dels comptes anuals. Hem verificat que la informació comptable que conté l'esmentat informe de gestió concorda amb la dels comptes anuals de l'exercici 31 de desembre de 2010. El nostre treball com a auditors es limita a la verificació de l'informe de gestió amb l'abast esmentat en aquest mateix paràgraf i no inclou la revisió d'informació diferent de l'obtinguda a partir dels registres comptables de la Societat.

BOVÉ MONTERO Y ASOCIADOS

Josep Serra
Soci

Barcelona, 23 de març de 2011

COL·LEGI DE CENSORS JURATS DE COMPTES DE CATALUNYA

BOVÉ MONTERO Y ASOCIADOS, S.L.

Any 2011 Núm. 20/11/06838
IMPORT COL·LEGIAL: 90,00 EUR

Aquest informe està subjecte a la taxa aplicable establerta a la Llei 44/2002, de 22 de novembre.

Barcelona: Mariano Cubí, 7, E-08006 Barcelona. Tel.: +34 93 218 07 88. Fax: +34 93 237 58 25. E-mail: bov@boveymontero.com
Madrid: Príncipe de Vergara, 128, 1º F, E-28002 Madrid. Tel.: +34 91 563 54 14. Fax: +34 91 562 57 05. E-mail: madrid@boveymontero.com
Palma de Mallorca: Sindicat, 87, 1º despatx 3, E-07002 Palma de Mallorca. Tel.: +34 971 77 51 24. Fax: + 34 971 72 62 40. E-mail: pmal@boveymontero.com
Valencia: Avenida Marqués de Sotelo, 3, 6º, E-46002 Valencia. Tel.: +34 96 352 21 11. Fax: +34 96 352 12 58. E-mail: val@boveymontero.com
http://www.boveymontero.com

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3.4 Statements by board members

In accordance with the provisions established in Section 3 of Article 229 of the Spanish Capital Companies Act, with regard to share holdings or positions held in companies with the same, similar or complementary activities, below we attach the statements made by Board Members with regard to this aspect:

a) The Board Member, Mr. Joan Puigdollers i Fargas, holds the following positions in companies with the same, similar or complementary activities:

Company	Positions or Duties
EMSSA	Board Member
ATLL	Board Member

b) The Board Member, Mr. Carlos Campos Callao, holds the following positions in companies with the same, similar or complementary activities:

Company	Company Activity	Positions or Duties
Aquagest soluciones industriales, S.A. Unipersonal	Water and the environment.	Sole Director after 30/06/10
Labaqua, S.A.	Environmental services and analysis, risk prevention and consultancy	Sole Director after 06/09/10
Ingeniería, tecnología y servicios del agua y medio ambiente, S.A. (SEDELAM)	Management of the full water cycle.	Sole Director after 21/06/10
Ambitalis, A.I.E.	Technical and legal assistance in matters of environmental law.	Chairman after 30/06/10
Aqua ambiente servicios integrales, S.A.	Holding and hydraulic engineering.	Board Member after 1/06/10
Sistemas de transferencia de calor, S.A.	Activities related to drying equipment, based on hot air convection processes.	Sole Director after 30/06/10
IELAB calidad, S.A.	Provision of services and products for the application of quality in testing laboratories.	Joint Director after 30/06/10

c) The Board Member, Mr. Alejandro Jiménez Marconi, holds the following positions in companies with the same, similar or complementary activities:

Company	Company Activity	Positions or Duties
Drenatges urbans del Besòs, S.L.	Full water cycle	Vice-Secretary (non-member), after 3/11/2010
Empresa d'aigües i serveis de Cervera i la Segarra, S.L.	Full water cycle	Vice-Secretary (non-member), after 02/11/2010
Empresa municipal de aguas y saneamiento de Murcia, S.A. (EMUASA)	Full water cycle	Board Member, after 13/10/2010
Secomsa aigües, S.L.	Full water cycle	Vice-Secretary (non-member), after 17/11/2010

d) The Board Member, Mr. Ciril Rozman Jurado, holds the following positions in companies with the same, similar or complementary activities:

Company	Company Activity	Positions or Duties
Aquagest Andalucía, S.A.	Full water cycle	Board Member
Empresa municipal de abastecimiento y saneamiento de Granada, S.A. (EMASAGRA)	Full water cycle	Board Member
Bristol Water PLC	Water supply	Director until 29/11/2010
Aguas de Cartagena	Supply, sewer system and wastewater treatment in Cartagena de Indias (Colombia)	Reserve Board Member until 29/09/2010
China Oriental Water company limited	Holding	Board Member
Fundación Aguas de Cartagena	Design and promotion of plans and projects associated with the full water cycle	Reserve Delegate until 29/09/2010
Jiangsu Water CO. Limited	Holding	Director
Empresa municipal de aguas y saneamiento de Murcia, S.A. (EMUASA)	Full water cycle	Vice-Chairman after 13/10/2010
Aguas municipalizadas de Alicante, empresa mixta	Full water cycle	Board Member after 16/06/2010

e) The Board Member, SOCIETAT GENERAL D'AIGÜES DE BARCELONA, SA holds the following share holdings and positions in companies with the same, similar or complementary activities:

Company	Direct Holding	Positions or Duties
SOREA Sociedad Regional de Abastecimiento de Aguas, S.A.	99,99%	
Aguas Argentinas, S.A.	25,001%	
Aguas provinciales de Santa Fe, S.A.	10,88%	
Aquagest Levante, S.A.	99,99%	
Interagbar de México, S.A. de CV	100%	
Mina pública d'aigües de Terrassa, S.A.	32,58%	Vice-Chaimanship
Interagua servicios integrales del agua, S.A. Unipersonal	100%	
Companyia d'aigües de Sabadell, S.A.	13,25%	
Aguas de Cartagena, S.A. (ACUACAR)	45,91%	
Agbar Chile, S.A.	33,65%	
Aquagest región de Murcia, S.A.	99,99%	
Agbar UK Ltd.	100%	
Aguas Cordobesas, S.A.	5%	
Agbar ConoSur Limitada	0,001%	
Aigües del Segarra Garrigues, S.A.	22%	
Agbar Latinoamérica	99,99%	
Inmobiliaria Mina, S.A.	5,94%	Board Member
Aguas de Levante, S.A.	100%	
Jiangsu Water co Ltd	71,5%	
Agbar Brasil tecnologias e serviços em saneamento, Ltda.	99,99%	
Agbar Perú, S.A.	99,99%	
Aqua ambiente servicios integrales, S.A.	99,99%	
Districlima, S.A.	19,20%	
Agbar su kanalizasyon yatirim ve isletme anonim sirketi	99,99%	
Girona, S.A.	31,42%	Board Member

Company	Indirect Holding
Aquagest soluciones industriales, S.A. Unipersonal	99,99%
Companyia d'aigües de Palamós, S.A.	55,9%
Aigües d'Osona, S.A.	24,49%
Conducció del Ter, S.L.	47,99%
Empresa municipal mixta d'aigües de Tarragona, S.A.	48,99%
Aigües Sant Pere de Ribes, S.A.	97,38%
Aigües del Segarra Garrigues, S.A.	1%
Drenatges Urbans del Besòs, S.L.	50%
Aguas término de Calvià, S.A.	80%
Aquagest medio ambiente rubatec – AMSA, A.I.E.	45%
Aigües de l'Alt Empordà, S.A.	48,6%
Depuradores d'Osona, S.L.	24,50%
Anaigua, companyia d'aigües de l'Alt Penedès i l'Anoia, S.A. Unipersonal	100%
Empresa d'aigües i serveis de Cervera i la Segarra, S.L.	49%
Secomsa aigües, S.L.	48,97%
Aquagest medio ambiente aqualia, A.I.E.	62,5%
Sorea, sociedad regional de abastecimiento de aguas, S.A.	0,01%
Aigües del municipi de la Selva, S.L.	20%
Aquagest Andalucía, S.A.	50%
Aquagest promoción técnica y financiera de abastecimiento de agua, S.A.	100%
Simmar, serveis integrals del Maresme, S.L.	36%
Empresa mixta d'aigües de la Costa Brava, S.A.	41,24%
Construccions i Rebaixos, S.L. Unipersonal	100%
Ambitalis, A.I.E.	59,89%
Aigua de Rigat, S.A.	68,46%
Aguas de Montilla, S.A.	25%
Aquaourense sociedade provincial de augas e medio ambiente, S.A.	66%

Aguas Vega-Sierra Elvira, S.A.	20%
Aguas y Saneamientos de Torremolinos, S.A.	47,5%
Empresa municipal de abastecimiento y saneamiento de Granada, S.A.	25%
Edar Cádiz-San Fernando, agrupación de interés económico	11%
Teidagua, S.A.	49,68%
Aguas de Albacete, S.A.	74%
Aguas de Valladolid, S.A.	100%
Pozos y recursos del Teide, S.A.	99,98%
Canaragua, S.A.	100%
Gabinete de ingeniería hidráulica, S.A.	20%
Aguas del Teide, gestión integral del servicio, S.A.	50%
Aguas de Arona, S.A.	82,38%
Aguas de la Habana, S.A. empresa mixta	45%
Sagapyr, S.A.	45%
Aquagest Extremadura, S.A.	55%
Sistemas de transferencia de calor, S.A.	100%
Proveïment d'aigua, S.A.	14,14%
Ribatallada, S.A.	10,65%
Aigües de Blanes, S.A.	15,40%
Aigües de Girona, Salt i Sarrià de Ter, S.A.	24,8%
Aigües de Matadepera, S.L.	23,8%
Revermina, S.L. Unipersonal	32,58%
Patmina, S.L. Unipersonal	32,58%
Depuraigua, depuradora d'aigües, S.L.	17,91%
Obres i canalitzacions Mina, S.L.	32,58%
Serveis de l'aigua, S.A.	32,54%
Inmobiliaria Mina, S.A.	18,20%
Aguas de Jumilla, S.A.	49%
Sermubeniel, S.A.	49%
Aigües municipals de Paterna, S.A.	49%
Empresa municipal de aguas y saneamiento de murcia, S.A. (EMUASA)	49%
Aguas de Lorca, S.A.	49%
Aguas de Cieza, S.A.	49%
Ingeniería, tecnología y servicios del agua y medio ambiente, S.L. (SEDELAM)	100%
Aguas municipalizadas de Alicante empresa mixta (AMAEM)	50%
Aigües i sanejament d'Elx, S.A.	49%
Empresa mixta d'aigües de l'Horta, S.A.	49%
Aigües de Cullera, S.A.	47,62%
Aguas del arco Mediterráneo, S.A.	74%
Empresa mixta de aguas residuales de Alicante, S.A. (EMARASA)	50%
Labaqua, S.A.	100%
Comercial de aguas, S.A. (COMAGUA)	100%
Eco-neteges especials, S.A.	25,97%
Bristol water holding, Ltd.	100%
Bristol water core holdings, Ltd.	100%
Verdan group, Ltd.	100%
Bristol water, Plc.	100%
Bristol water services, Ltd.	100%
Agbar environnement limited	100%
Bristol wessex billing services	50%
Agbar cono sur, Limitada	99,99%
Inversiones aguas del gran Santiago, S.A.	100%
Empresa depuradora de aguas servidas mapocho-trebal limitada	51%
Inversiones aguas metropolitanas, S.A.	57%
Aguas Andinas, S.A.	28%
Aguas Manquehue	28%
Aguas Cordillera, S.A.	28%
Gestión y Servicios, S.A.	28%
Eco-riles, S.A.	28%
Análisis ambientales (ANAM), S.A.	28%
Aguas de Saltillo, empresa mixta	45%
Compañía hispanoamericana de servicios, S.A. (CHAS)	50%
Brisaguas, S.A.	25,50%
Aguas de la Habana, S.A. empresa mixta	41%
Inversiones iberaguas limitada, S.A.	28%
Empresa de servicios sanitarios de los lagos, S.A.	15%
Empresa depuradora de aguas servidas	50%
Taizhou golden harbour water company limited	71,55%
China oriental water company	71,55%
Taizhou golden state water company limited	65,5%
Nanjing golden state chengbei wastewater treatment company, Ltd.	71,55%
Aguas de Puertollano, S.L.	48,99%
Aguas de Avilés, S.L.	74%
Aquagest medio ambiente, S.A.	99,99%
Geie ifem, AIE	51%
Sociedad mixta de aguas de León	49%
Canaragua Sur, S.A.	100%
Eicoh explotaciones, S.L.	100%
Canaragua medio ambiente, S.A.	100%
Aguas de Benhavís, S.A.	22%

f) The Board Member, COMPAÑÍA CATALANA DE SERVICIOS, S.A. holds the following share holdings and positions in companies with the same, similar or complementary activities:

Company	Direct Holding	Positions or Duties
Jaume Oró, S.L.	99%	Board Member
Aguas Torrelavega, S.A.		Board Member
Aqua Campiña, S.A.		Board Member
Compañía de servicios medioambientales do Atlantico, S.A.		Board Member
Empresa mixta de medio ambiente de rincón de la Victoria, S.A.		Board Member
International services inc, S.A. Unipersonal		Board Member
Jaime Franquesa, S.A.		Board Member
Limpieza e higiene de Cartagena, S.A.		Board Member
Limpiezas urbanas de Mallorca, S.A.		Board Member
Servicios especiales de limpieza, S.A.		Board Member
Aguas municipais de Arteixo, S.A.		Board Member
Empresa mixta de limpieza de la Villa de Torrox, S.A.		Board Member
Empresa municipal de desarrollo sostenible ambiental de Úbeda, S.L.		Board Member
Empresa municipal de aguas de Algeciras, S.A.		Board Member
Empresa municipal de aguas de Benalmádena, S.A.		Board Member
Ecoparc del Besòs, S.A.		Board Member

g) Que el Conseller SERVICIOS ESPECIALES DE LIMPIEZA, S.A. té les següents participacions i càrrecs en societats amb el mateix, anàleg o complementari gènere d'activitats:

Company	Direct Holding	Positions/Duties
Aseo Yumbo, S.A. Esp.	1,00%	
Compañía de limpieza y embellecimiento, S.R.L.	0,01%	
FCC servicios Santo Domingo, S.A.	1,00%	
FOCSA serviços de saneamiento urbano de Portugal, S.A.	0,01%	
Proactiva aguas de Montería, S.A. Esp	0,77%	
Proactiva Colombia, S.A.	0,79%	
Proactiva de servicios, S.A. Esp.	0,29%	
Abastecimientos saneamientos del norte, S.A.		Vice-Chairmanship
Aguas de Denia, S.A.		Board Member
Aguas Torrelavega, S.A.		Board Member
Aqua Campiña, S.A.		Board Member
Compañía de servicios medioambientales do Atlantico, S.A.		Board Member
Empresa mixta de aguas y servicios, S.A.		Board Member
Empresa mixta de limpieza de la Villa de Torrox, S.A.		Secretary
Empresa mixta de medio ambiente de Rincón de la Victoria, S.A.		Board Member
FOCSA serviços de saneamiento urbano de Portugal, S.A.		Board Member
Gestión integral de residuos sólidos, S.A.		Board Member
Jaime Franquesa, S.A.		Board Member
Jaume Oró, S.L.		Board Member
La unión servicios municipales, S.A.		Board Member
Limpieza e higiene de Cartagena, S.A.		Secretary
Limpiezas urbanas de Mallorca, S.A.		Board Member
Servicios de limpieza integral de Málaga III, S.A.		Board Member
Servicios urbanos de Málaga, S.A.		Board Member
Sociedad ibérica del agua SIA, S.A. Unipersonal		Board Member
Valorización y tratamiento de residuos, S.A.		Board Member
Aguas municipais de Arteixo, S.A.		Board Member
Empresa municipal de desarrollo sostenible ambiental de Úbeda, S.L.		Board Member
Aigües del Tomovi, S.A.		Board Member
Ecoparc del Besòs, S.A.		Board Member
Ecoparque mancomunidad del Este, S.A.		Board Member
Ingeniería Urbana, S.A.		Secretary
Tratamientos y recuperaciones industriales, S.A.		Board Member
Valoración y tratamiento de residuos urbanos, S.A.		Board Member
Societat municipal mediambiental d'Igualada, S.L.		Board Member
Empresa mixta de aguas y servicios, S.A.		Board Member
Gandia serveis urbans, S.A.		Board Member
Zabalgarbi, S.A.		Board Member

h) The Board Member, SERVEIS D'ESCOMBRARIES I NETEJA, S.A. holds the following positions in companies with the same, similar or complementary activities:

Company	Positions or Duties
Limpieza e higiene de Cartagena, S.A.	Board Member

i) The Board Member FCC VERSIA, S.A. holds the following share holdings and positions in companies with the same, similar or complementary activities:

Company	Direct Holding	Positions/Duties
Beta de administración, S.A.	99,99%	Board Member
CEMUSA corporación Europea de mobiliario urbano, S.A.	100%	Board Member
CGT corporación general de transportes, S.A.	99,99%	Board Member
Estacionamientos y servicios, S.A.	100%	Board Member
FCC logística, S.A. Unipersonal	100%	Board Member
Flightcare, S.L.	99,99%	Board Member
Navegación y servicios aeroportuarios, S.A. Unipersonal	100%	Board Member
Versia holding Gmbh	50%	
Tratamiento industrial de aguas, S.A.		Board Member
Colaboración gestión y asistencia, S.A.		Board Member
Aparcamientos concertados, S.A.		Board Member
Conservación y sistema, S.A.		Board Member
Empresa mixta de tráfico de Gijón, S.A.		Board Member
Equipos y Procesos, S.A.		Board Member
Santos Renting S.L. Unipersonal		Board Member
Sistemas y vehículos de alta tecnología S.A.		Board Member
Tratamiento industrial de aguas, S.A.		Board Member

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Str. Acer 16
08038 BARCELONA

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